

2006 *SS Palo Alto* Oil Removal: Project Progress

Note: In addition to activities listed, a daily safety meeting is held with people working on-scene, and a daily planning meeting is held with key OSPR, State Parks, and Titan representatives.

August 30 & 31, 2006

TITAN SUMMARY

- Arrived at Seacliff State Beach with advance planning team
 - Preliminary verbal safety briefing
 - Assessed upper parking lot staging area
 - Received forklift, safety/security fencing, port-o-lets, and 20-foot storage container
 - Received and staged 2 transport loads of portable recovery and salvage equipment
 - Staged and secured gangway from pier to stern of *SS Palo Alto*
 - Local logistical tracking and exploration
 - Met with Harbor Master at Santa Cruz Harbor and surveyed loading dock and berthing facilities for support vessel
 - Met with US Coast Guard Sector San Francisco personnel, on-site.
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Friday, September 1, 2006

TITAN SUMMARY

- Met with pertinent individuals and groups regarding efforts and methodology to be employed during *SS Palo Alto* oil removal project
- Met with pollution response subcontractor and defined scope of work and response capability required
- Support vessel landing craft (LCM8) is being outfitted for operation in Long Beach
- Fabricated hand railing and barriers for future installment aboard *SS Palo Alto*
- Arrival of additional personnel
- Conducted initial site safety assessment with additional personnel and Crowley/Titan health & safety manager

OSPR and State Parks issued joint news release about *SS Palo Alto* oil removal project.

Saturday, Sept. 2, 2006

TITAN SUMMARY

- Site-specific HAZWOPER training
- Work on site safety plan
- Monitor landing craft (LCM8) mobilization status
- Plan access way to mid-ships section

OSPR posted fact sheet and news release on www.dfg.ca.gov/ospr website

Sunday, Sept. 3

TITAN SUMMARY

- Site orientation and specific hazard overview
 - Organization of received portable remediation spread
 - Testing and run-up of mechanical components involved in assessment phase
 - Staging of pertinent gear involved in first response of assessment phase
 - Improve Site Safety Plan
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Monday, Sept. 4 (Labor Day)

TITAN SUMMARY

- Organization of received portable remediation spread
 - Testing and run-up of mechanical components involved in assessment phase
 - Staging of pertinent gear involved in first response of assessment phase
 - Finalized Site Safety Plan
 - Acquire components needed
 - Prepare Oil Spill Contingency Plan
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Tuesday, Sept. 5

TITAN SUMMARY

- Supported media coverage activities on site
- Measured and cut grating for safety coverage of holes in deck
- Began pressure washing deck (for worker safety)
- Installed barriers and handrails
- Removed impalement objects (i.e.: exposed rebar)
- Acquired components as needed

NEWS COVERAGE OF PROJECT

KPIX-TV CBS-5/San Francisco; Santa Cruz Sentinel; San Jose Mercury News; Register-Pajaronian / Watsonville; KQED-FM/San Francisco Radio.

Wednesday, Sept. 6

TITAN SUMMARY

- Project Manager traveled to San Diego for inspection of LCM8 support vessel *Diana G*
- Continued grating installation, pressure washing of deck, barrier and handrail setup, and removal of impalement objects
- Purchased materials for construction of mid-ships access gangway and began fabrication of this gangway
- Diesel procured and delivered by Valley Oil into drums and equipment at primary site staging area (for diesel-powered equipment)
- Local fire dept. personnel came to pier site and were referred to incident commander's office

NEWS COVERAGE OF PROJECT

KSBW-TV 8/Salinas; KNTV-11 NBC-3/San Jose; San Jose Mercury News

Thursday, Sept. 7

TITAN SUMMARY

- Continued grating installation, pressure washing of deck, barrier and handrail setup, and removal of impalement objects
 - Began construction of bridge for port side mid-ships section
 - Fastened aft to mid-ships gang-way
 - Sourced and acquired components locally
 - Additional grating delivered
 - *Diana G* (LCM8) arrived Santa Barbara for refueling and departed at 4pm.
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Friday, Sept. 8

TITAN SUMMARY

- Continued grating installation, pressure washing of deck, barrier and handrail set-up, and removal of impalement objects
- Began construction of bridge for port side mid-ships section
- Fastened aft to mid-ships gang-way
- Sourced and acquired components locally
- Additional grating delivered
- *Diana G* arrived at Santa Barbara for refueling, and departed at 1600 hrs. (4pm)

Remarks and Items of Concern: Health hazards to workers on ship caused by dead birds and flies

Saturday, Sept. 9

TITAN SUMMARY

- Continued grating installation, pressure washing of deck, barrier and handrail setup, and removal of impalement objects
- Finished construction and installed bridge for port side mid-ships section
- Bagged 30 dead and decayed cormorants, which were transported by Fish and Game for disposal
- Sourced and acquired components locally
- *Diana G* arrived in Santa Cruz Harbor at 2000 hrs. (8pm)

Remarks and Items of Concern: Health hazards to workers on ship caused by dead birds and abundance of flies

Sunday, Sept. 10

TITAN SUMMARY

- Continued grating installation, pressure washing of deck, barrier and handrail setup, and removal of impalement objects on mid-ships section.
- Surveyed LCM 8 *Diana G*. Brought additional fendering (protective bumpers) to vessel.
- Vessel crew of three transported to wreck site, so they could assess work area for the LCM.
- Local trucking company organized for 0900 hrs tomorrow to transport gear from Aptos site to vessel at Santa Cruz Harbor.
- Staged portable salvage spread for Monday load out to Santa Cruz Harbor

Remarks and Items of Concern:

- Health hazards to workers on ship caused by dead birds and abundance of live flies
 - Surf and swell activity when personnel working on mid-ship, near submerged end
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Monday, Sept. 11

TITAN SUMMARY

- Safety Plan briefing with Fire Dept paramedic's, OSPR, Fish and Game, State Parks and Titan representatives and Titan Site Safety Officer/DMT
- USCG visited site again today.
- Continued grating installation, pressure washing of deck, barrier and handrail setup, and removal of impalement objects on mid-ships section
- Loaded and trucked assessment and remediation systems items from primary site staging area to LCM *Diana G* at Santa Cruz Harbor.
- After loading, the *Diana G* traveled to site and secured along port side of wreck.
- Transferred assessment and remediation systems items from *Diana G* to *Palo Alto* aft section
- *Diana G* returned to berth at Santa Cruz Harbor.
- Removed and bagged 23 dead seabirds from #3 port summer tank and port cargo storage area

Remarks and Items of Concern:

- Health hazards to workers on ship caused by dead birds and abundance of live flies
 - Surf and swell activity when personnel working on mid-ship, near submerged end
 - Weather conditions forecast to deteriorate, mid-Thursday into Friday of this week, with increased winds and rough seas.
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Tuesday, Sept. 12

TITAN SUMMARY

- Continued grating installation, pressure washing of deck, barrier and handrail setup, and removal of impalement objects on mid-ships section
- Began set up of assessment and remediation systems items aboard *Palo Alto* aft section
- Prepared personnel access area between *Palo Alto* & *Diana G*
- Utilized *Diana G* for water-borne survey of *Palo Alto*. Checked for external hazards and/or vessel conditions that may not be visible from on deck or inside the wreck that could possibly compromise safety.

- Assessed water depths around the wreck. Found 16-foot depths gradually increasing to 23 feet, from stern to bow, on both port and starboard sides.
- Operations planning for diving access into port forward bunker tank

Remarks and Items of Concern:

- Health hazards to workers on ship caused by dead birds and abundance of live flies
 - Surf and swell activity when personnel working on mid-ship, near submerged end
 - Weather conditions forecast to deteriorate, mid-Thursday into Friday of this week, with increased winds and rough seas.
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Wednesday, Sept. 13

TITAN SUMMARY

Every day, starting today:

- Set up decontamination station
- Tailgate meeting of all Titan & OSRO supervisors and technicians regarding emergency spill response contingencies and scenarios
- OSRO's two personnel on site, and their emergency response equipment staged on pier
- Support vessel *Diana G* standing by on-site

TITAN SUMMARY

- Continued grating installation, pressure washing of deck, barrier and handrail setup, and removal of impalement objects on mid-ships section
- Finished set up of assessment and remediation systems items aboard *Palo Alto* aft section
- Prepared diver access into port forward bunker tank expansion trunk
- Removed spot oil/fuel from port forward bunker tank expansion trunk
- Operations planning for diving access into port forward bunker tank
- Finalized details of OSRO (Clean Harbors Environmental Services, Inc.), and organized their personnel and gear to arrive on-site tomorrow morning.
- Support vessel *Diana G* standing by on-site
- Previously noted dead bagged seabirds picked up by Fish and Game staff
- Fabricated mounting pole device for underwater video camera so as to be able to assess hazards prior to diver entry

Remarks and Items of Concern:

- Health hazards to workers on ship caused by dead birds and abundance of live flies.
 - Surf and swell activity when personnel working on mid-ship, near submerged end.
 - Weather conditions forecast to deteriorate, mid-Thursday into Friday of this week, with increased winds and rough seas.
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Thursday, Sept. 14

TITAN SUMMARY

- Continued grating installation, pressure washing of deck, barrier and handrail setup, and removal of impalement objects on mid-ships section

- Removed spot oil/fuel from port forward bunker tank expansion trunk
- Underwater video survey of expansion trunk performed. Noted impalement obstructions to be removed and fuel/oil observed near tank top
- Diver entrance made into port forward bunker in order to remove hazardous obstacles. Utilized hand held, underwater, CCTV camera on boom for tank integrity inspection and fuel/oil survey. Diver also took samples of fuel/oil and sand from tank bottom. Both samples were given to Fish and Game - OSPR for chemical analysis.
- Planned and staged OSRO's equipment on site. Placed strategically on pier, to be readily accessible for both wreck site and shoreline response.

Remarks and Items of Concern: Strong winds along with increased swells forecast for next several days

OTHER NOTES

Small amounts of free oil have been observed in the expansion trunk adjacent to the port bunker tank and port tank #3. Preliminary dive operation will occur today. The landing craft adjacent to the *Palo Alto* will help support this operation.

Fifty-five dead seabirds, in various states of decay, have been removed from this area over the last several days. Most appear to be cormorants. DFG's Marine Wildlife Care and Veterinary Research Center staff assisted with their disposal.

Friday, Sept. 15

TITAN SUMMARY

- Removed spot oil/fuel from port forward bunker tank expansion trunk
- Bottom profile of port forward bunker, utilizing diver and pneumo-fathometer. Measurements taken show tank is approximately 15 to 16 feet full of sediment.
- Diver entered port forward bunker tank to insert suction wand into highest area of tank where fuel oil wedge exists. Pumped estimated 15 gallons of fuel/oil
- Met with local security company. They will begin nighttime patrols this evening.

Remarks and Items of Concern: Strong winds along with increased swells forecast for next several days

Saturday, Sept. 16

TITAN SUMMARY

- Removed spot oil/fuel from port forward bunker tank expansion trunk
- Diver entered port forward bunker tank to survey internal tank integrity, and to strategically place oil/fuel pump suction hose.
- After pumping began, diver found dead seabirds plugging suction. Diver cleared the hose, repeatedly, but the continuous clogging of the hose by the dead seabirds caused us to cease this operation. Developed plan to remove seabirds

Remarks and Items of Concern:

- Strong winds along with increased swells forecast for next several days

- Health hazards to workers on ship, due to severely decomposed, trapped seabirds in port forward bunker tank
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Sunday, Sept. 17

TITAN SUMMARY

- Removed spot oil/fuel from port forward bunker tank expansion trunk
- Met with support vessel *Diana G* personnel to discuss options for sediment removal. Verified cargo capacity at 60 tons. Vessel is capable of handling containment bins.
- Discussed containment bin and transfer options with OSRO supervisor. They will work on supplying us with systems available.
- Completed cofferdam (using sand bags) on port forward bunker tank expansion trunk.
- Completed video survey of starboard forward bunker tank, utilizing diver with underwater camera on boom. Completed video survey of port and starboard #3 cargo tanks using camera on boom. All areas found to be fuel/oil free with abundant marine life.

Remarks/Areas of Concern: Health hazards to workers on ship, due to severely decomposed, trapped seabirds in port forward bunker tank

Monday, Sept. 18

TITAN SUMMARY

- Removed spot oil/fuel from port forward bunker tank expansion trunk
- Sourced topside breathing system components that will be required during bubbling operation of the port forward bunker tank. ETA tomorrow.
- Began sourcing full containment dive suits necessary for entering port forward bunker tank.
- Meeting held on board *Palo Alto* with SOSC, Fish & Game Industrial Hygienist, Fish & Game veterinarian, Supervising State Park Ranger and OSRO Supervisor. Discussed methodology and answered questions regarding our upcoming work in the port forward bunker tank.

Remarks/Areas of Concern: Health hazards to workers on ship, due to severely decomposed, trapped seabirds in port forward bunker tank

OTHER NOTES

Dive team began to execute plan to remove dead seabirds (that had clogged pumps, Saturday) from port forward bunker tank. They discovered that the problem was worse than previously believed, and diving operations within this tank have been temporarily suspended.

Safety officers were consulted, regarding additional equipment and methods that would have to be implemented, including higher-level personal protective equipment for those working in this area. Level A dive suits will be required to dive within this tank; all workers within the dive operation will wear level B attire with positive flow respirators; and human health issues will be resolved prior to any additional physical work within the bunker tank in question.

Titan will survey other parts of the ship, as delineated within the salvage plan, until we can mitigate safety and disposal concerns for the forward port bunker tank.

Tuesday, Sept. 19

TITAN SUMMARY

- Project site visited by Dept. of Parks and Recreation senior staff and OSPR legal staff, environmental scientist, oil spill prevention specialists, with State On-Scene Commander.
- Summary and planning meeting held with all of the above and Titan representatives
- Received components for topside breathing system; constructed and tested same.
- Wearing Level B PPE, we placed compressed air supply hose in the port forward bunker tank, to ventilate the space, and monitored the escaping air until readings stabilized. Began bubbling operation in this tank to assist in removal of decomposed seabirds / fuel / oil.
- Finalized sourcing of full containment dive suits necessary for entering port forward bunker tank. ETA Thursday, Sept 21.

Remarks/Areas of Concern: Health hazards to workers on ship, due to severely decomposed, trapped seabirds in port forward bunker tank

Wednesday, Sept. 20

TITAN SUMMARY

- OSPR Petroleum Chemistry Laboratory (PCL) reports the sample taken on Sept. 14 from sediment in port forward bunker tank is biomass, oily vegetable matter, and a small amount of petroleum
- OSPR lab is requesting three core samples from sediment, for additional analysis
- Monitored large sea swells coupled with higher than normal tide
- Repaired cofferdam damaged by large swells
- Modified bubbler system to sustain maximum air volume possible into port forward bunker tank, without overflowing tank
- Resumed bubbler operation and removed decomposed seabirds/fuel/oil as matter was released from underneath tank top into the expansion trunk
- Filled and stowed standby sandbags for future cofferdam repair

Remarks/Areas of Concern: Strong winds along with increased swells forecast for next several days

Thursday, Sept. 21

TITAN SUMMARY

- Received, assembled, inspected and tested full containment dive suits
- OSPR chemist and environmental scientist attending on site requested five core samples, instead of three. The five core samples were collected by diver throughout port forward bunker tank, in areas outlined by chemist, and passed directly on site from Titan to OSPR staff.
- Diver assisted the bubbler system to remove decomposed seabird/petroleum product from underneath tank top of port forward bunker tank
- Monitored large sea swells coupled with higher than normal tide
- Repaired cofferdam damaged by large swells
- Diver adjusted bubbler system to sustain maximum air volume possible into port forward bunker tank, without overflowing tank
- Resumed bubbler operation and removed decomposed seabirds/fuel/oil, as the matter was released from underneath tank top into the expansion trunk

Remarks/Areas of Concern: Strong winds along with increased swells

Friday, Sept. 22

TITAN SUMMARY

- Diver assisted the bubbler system to remove decomposed seabird/petroleum product from underneath tank top of port forward bunker tank
- Monitored large sea swells during high tide
- OSPR Petroleum Chemistry Lab reports qualifying core samples tested positive for petroleum product.
- Another meeting held with OSRO supervisor and OSRO project manager to again discuss sediment removal and viable options for same

Remarks/Areas of Concern: none

Sunday, Sept. 24

TITAN SUMMARY

- Diver assisted the bubbler system to remove decomposed seabird/petroleum product from underneath tank top of port forward bunker tank
 - Since diving operations began, it is estimated that we have removed approximately 93 seabirds and 2 seals from inside the port forward bunker tank. Due to decay of the seabirds, and their remaining parts being totally encased in thick oil, it is not possible to give an exact bird count.
 - We have now filled 14 drums (55-gal type) with the above noted matter, the petroleum product and saturated absorbent materials. We estimate that we have pumped approx 55 gallons of petroleum product into the tote tanks.
 - Continued to organize additional equipment to be mobilized to the site that will be necessary for sediment removal
 - Monitored large sea swells during high tide
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Monday, Sept. 25

TITAN SUMMARY

- Diver assisted the bubbler system to remove decomposed seabird/petroleum product from underneath tank top of port forward bunker tank.
 - Since diving ops began, it is estimated that we have removed approximately 103 seabirds and 2 seals from inside the port forward bunker tank. Due to decay of the seabirds, and their remaining parts being totally encased in thick oil, it is not possible to give an exact bird count. We have now filled sixteen 55-gallon drums with the above-described matter, petroleum product, and saturated absorbent materials. We estimate that we have pumped approximately 55 gallons of petroleum product into the tote tanks.
 - Continued to organize additional equipment to be mobilized to the site that will be necessary for sediment removal.
 - Monitored large sea swells during high tide
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Tuesday, Sept. 26

OTHER NOTES

Since August 29th, 2006, approximately 163 seabirds and two seals have been removed from the forward port side bunker tank. This number does not include the original 51 oiled seabirds from earlier accounts, which brings the confirmed total to 214 dead birds.

The removal of free oil within the bunker tank has been completed as of today.

Glossary of Acronyms, Abbreviations, and Unusual Terms

| | |
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| Aft | the back end (stern) of a vessel |
| CCTV | closed-circuit television |
| DFG | Department of Fish and Game (State of California) |
| Forward | the front end (bow) of a vessel |
| HAZWOPER | Hazardous Waste Operations and Emergency Response |
| LCM | landing craft, medium (size) |
| Mid-ships | the mid-section (side to side) of a vessel |
| OSPR | Office of Spill Prevention and Response (the pollution division of the California Department of Fish and Game) |
| OSRO | oil spill response organization |
| Port | left |
| starboard | right |